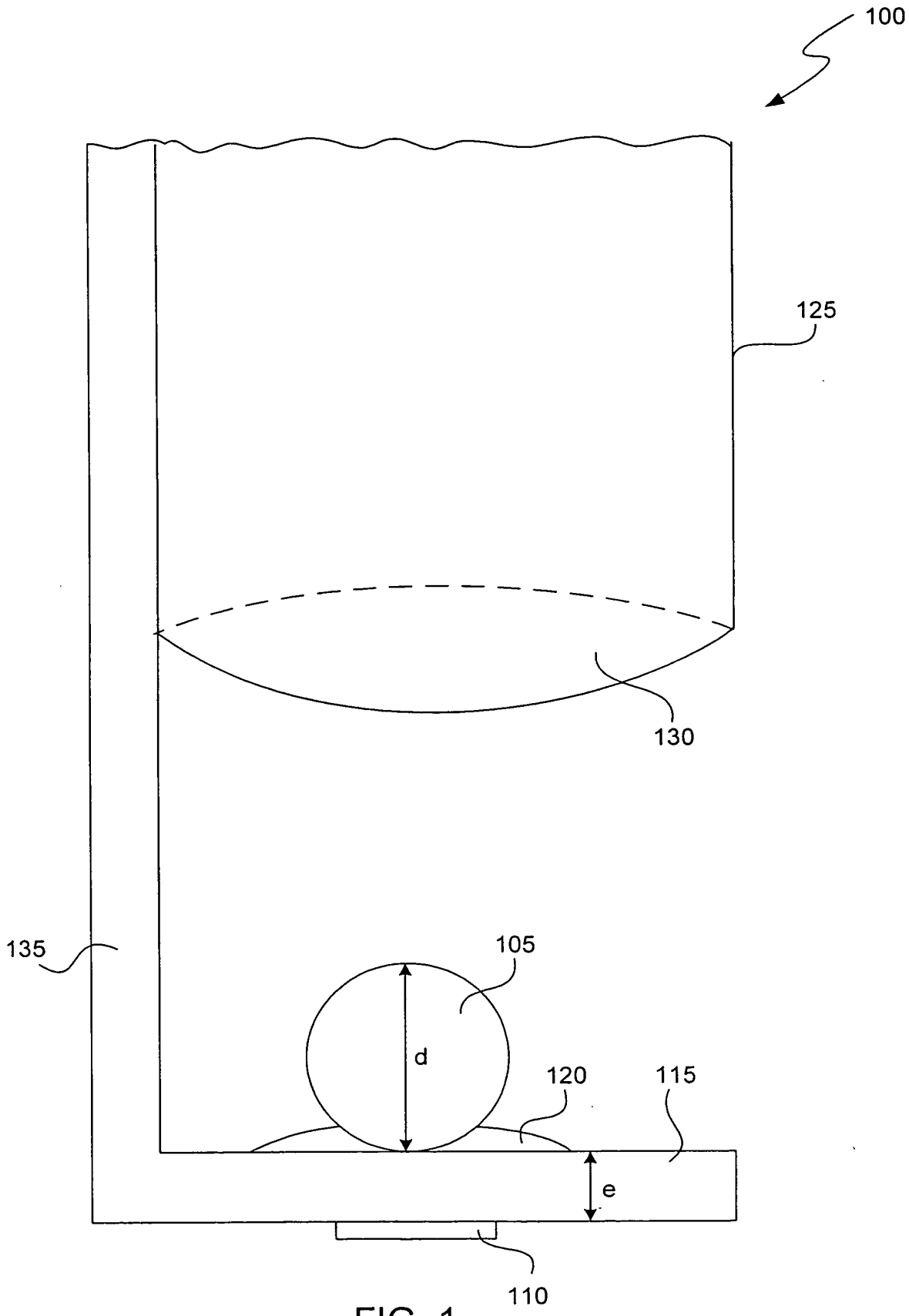



FIG. 1

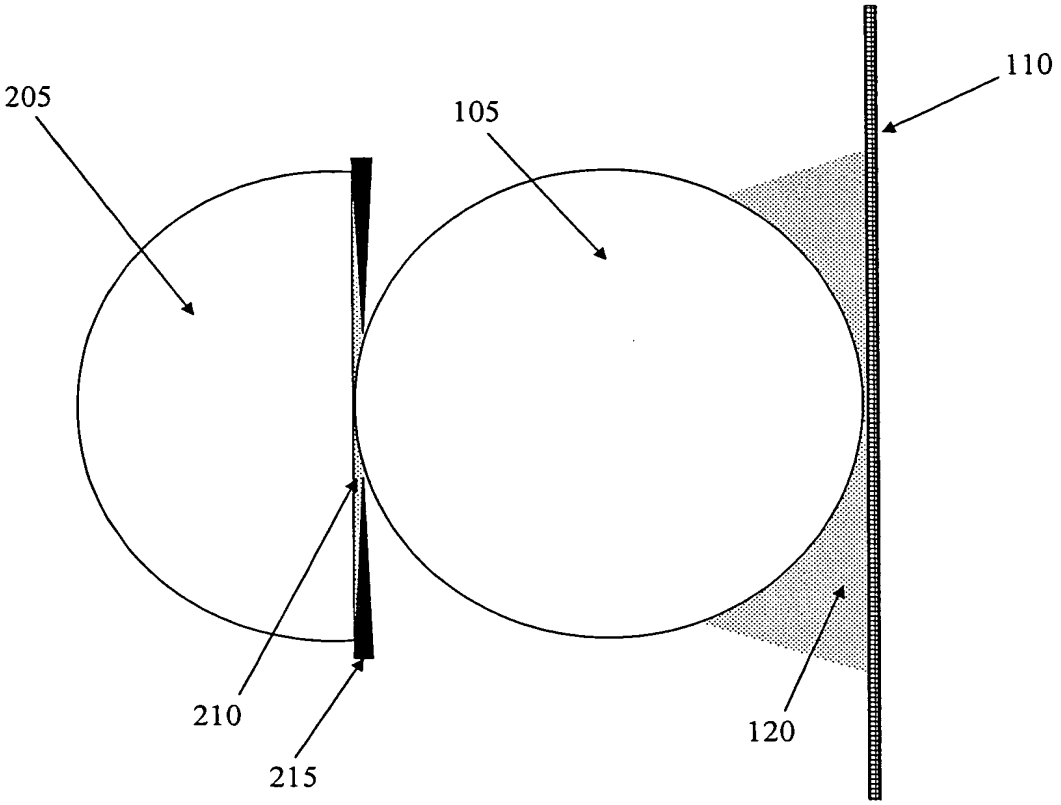

205
105
110
210
215
120

FIG. 2

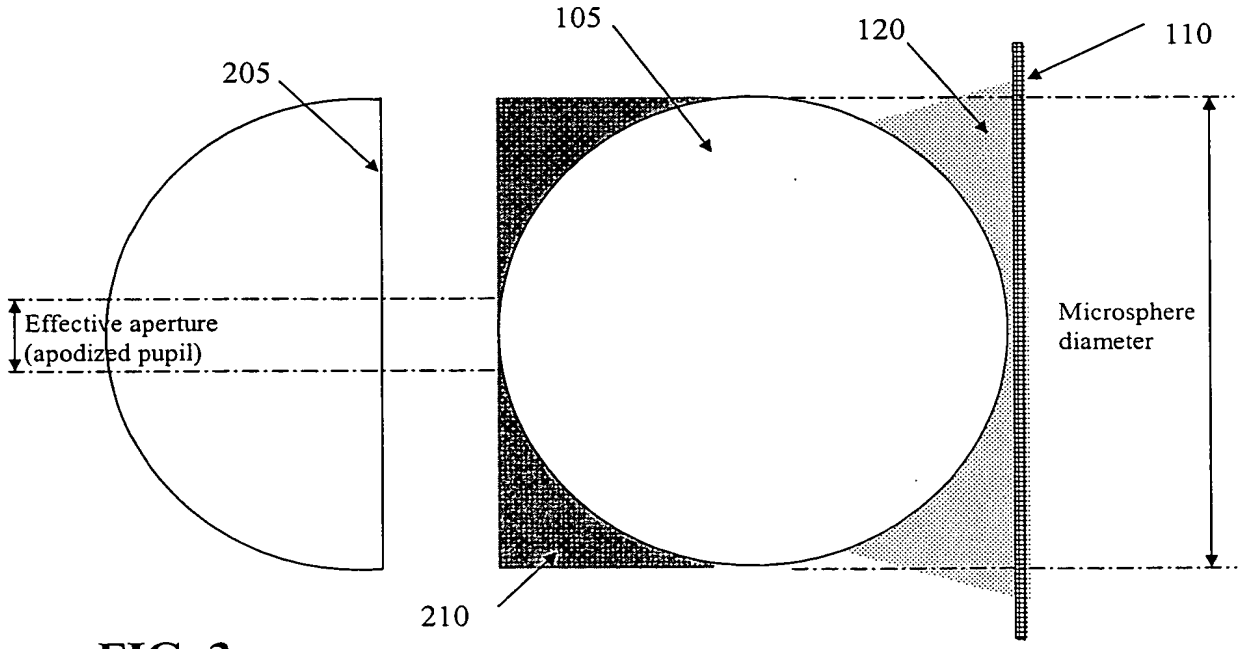

105
120
110
205
Effective aperture
(apodized pupil)
Microsphere
diameter
210

FIG. 3

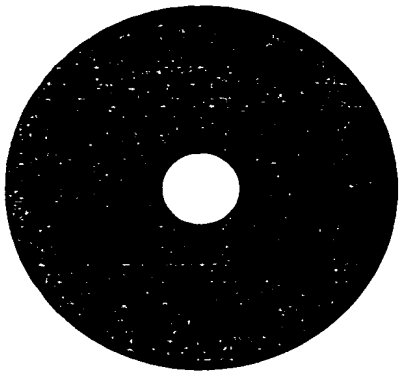


FIG. 4

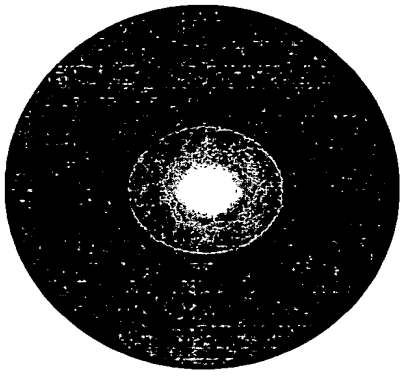


FIG. 5

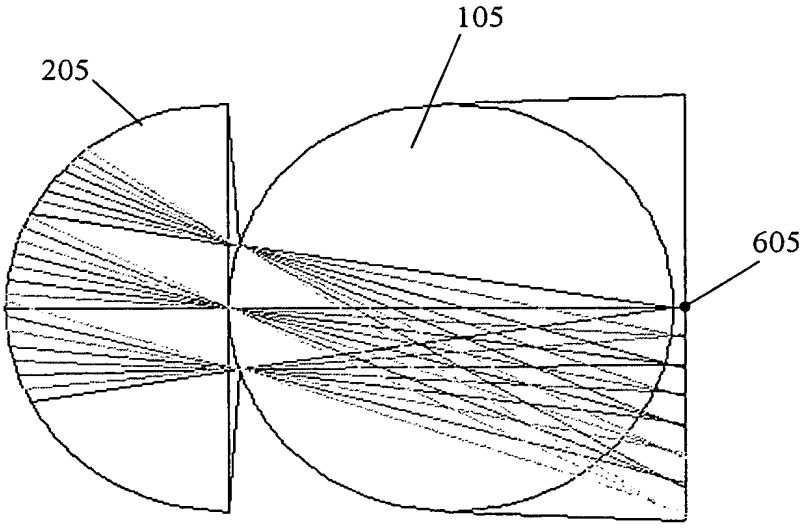



FIG. 6

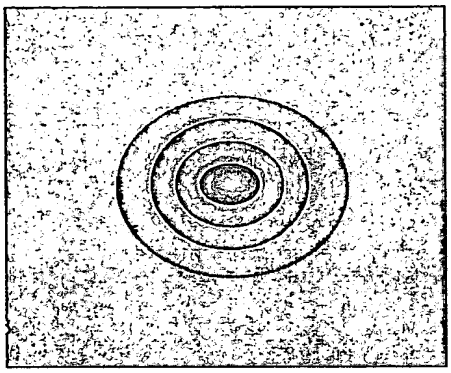


FIG. 7

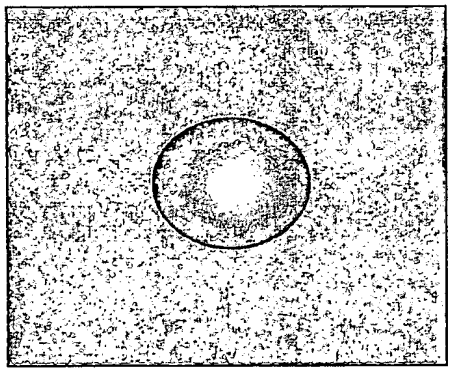
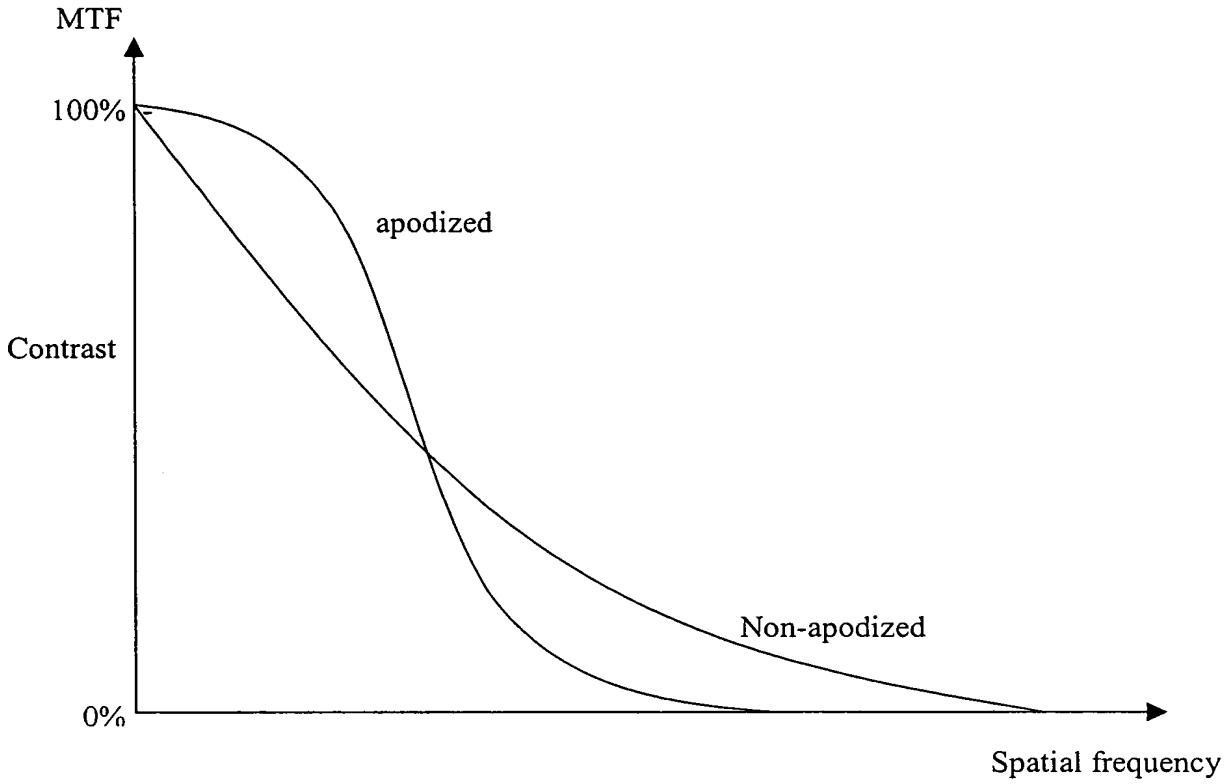


FIG. 8




**Diffraction-limited MTF (apodized vs. non-apodized lens)**

FIG. 9

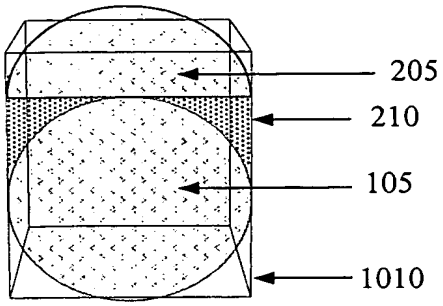



FIG. 10

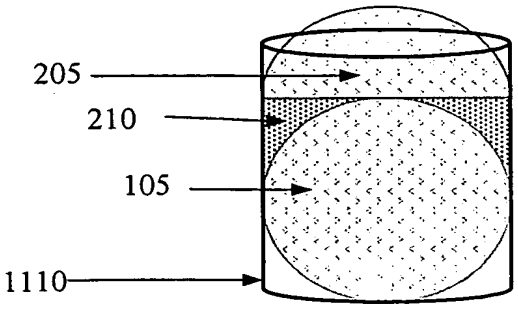



FIG. 11

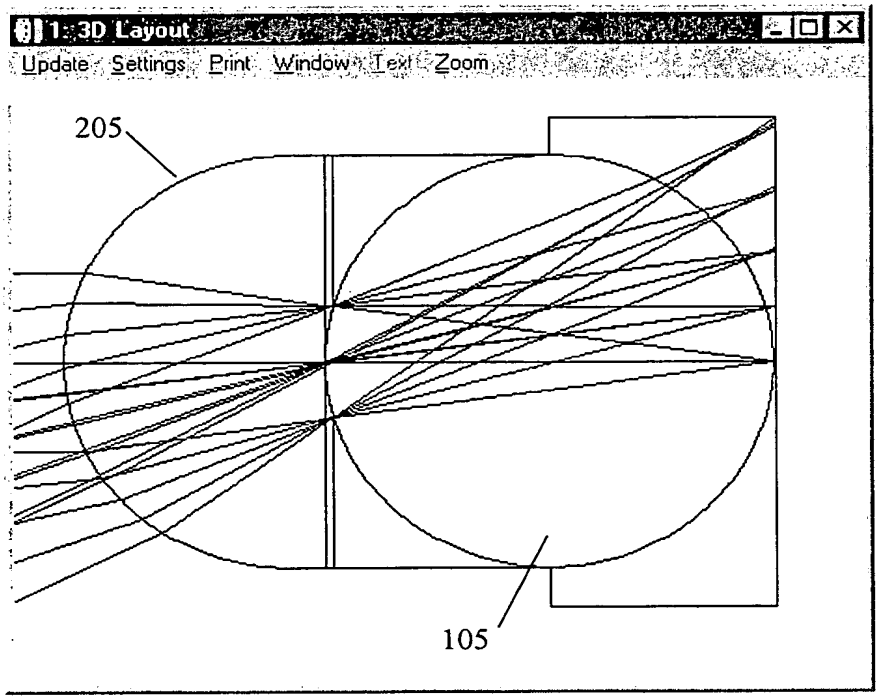



FIG. 12

| Surf | Type | Radius | Thickness | Glass | Diameter |
|---|---|---|---|---|---|
| OBJ | STANDARD | Infinity | 70.1778 | | 71.23298 |
| 1 | STANDARD | 1 | 1.159787 | FK51 | 2 |
| 2 | STANDARD | Infinity | 0 | 1.539000, 45.000000 | 2 |
| 3 | STANDARD | 1 | 0 | 1.539000, 45.000000 | 0.54 4 |
| | STANDARD | 1 | 2 | F_SILICA | 2 |
| 5 | STANDAR | -1 | 0.01 | 1.539000, 45.000000 | 2 |
| IMA | STANDARD | Infinity | | 1.539000, 45.000000 | 2.37 |

FIG. 13

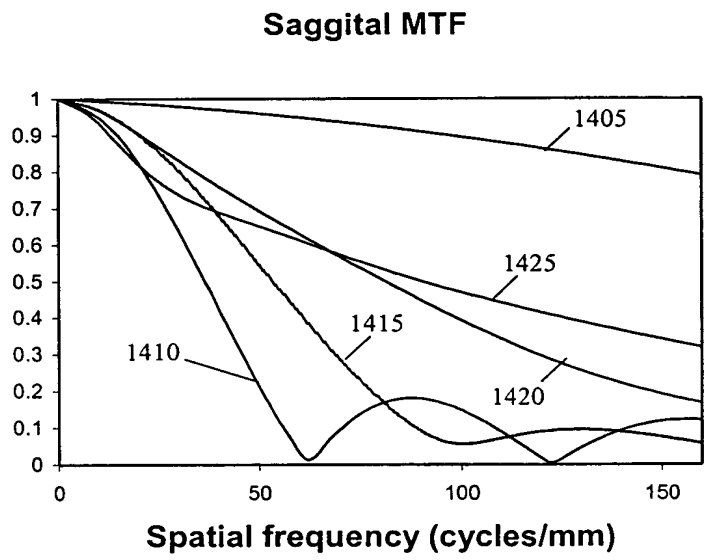



FIG. 14

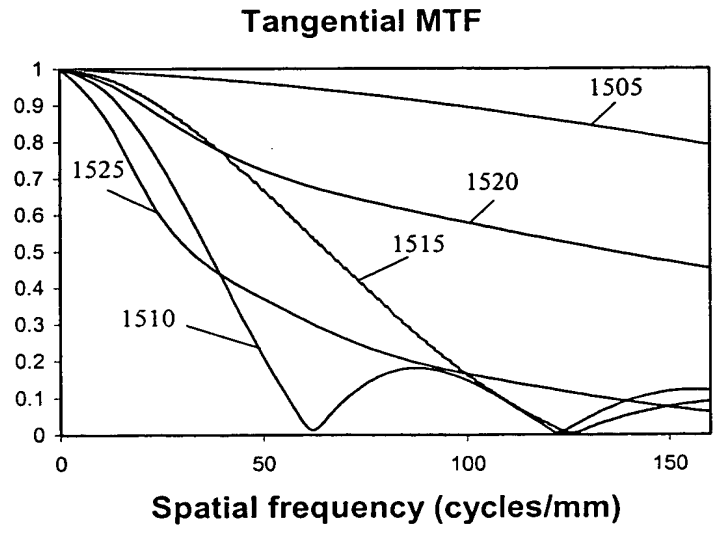



FIG. 15

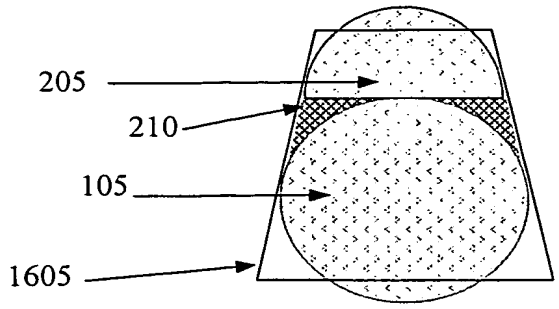

205
210
105
1605

FIG. 16

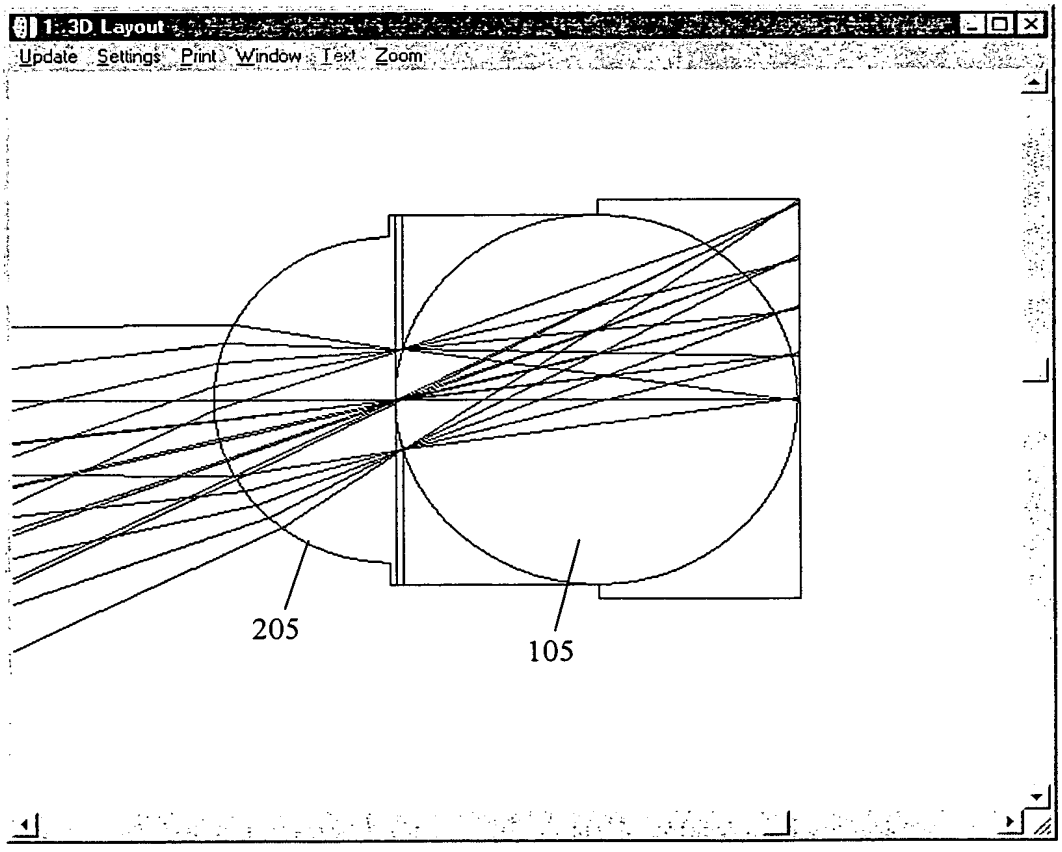

1: 3D Layout
Update Settings Print Window Text Zoom
205
105

FIG. 17

| Surf | Type | Radius | Thickness | Glass | Diameter |
|---|---|---|---|---|---|
| OBJ | STANDARD | Infinity | 70.1778 | | 70.89748 |
| 1 | STANDARD | 0.8790182 | 0.9070419 | FK51 | 1.76 |
| 2 | STANDARD | Infinity | 0 | 1.582000, 33.000000 | 1.76 |
| 3 | STANDARD | 1 | 0 | 1.582000, 33.000000 | 2 |
| 4 | STANDARD | 1 | 2 | F_SILICA | 2 |
| 5 | STANDARD | -1 | 0.01 | 1.582000, 33.000000 | 2 IMA |
| | STANDARD | Infinity | | 1.582000, 33.000000 | 2.16 |

FIG. 18

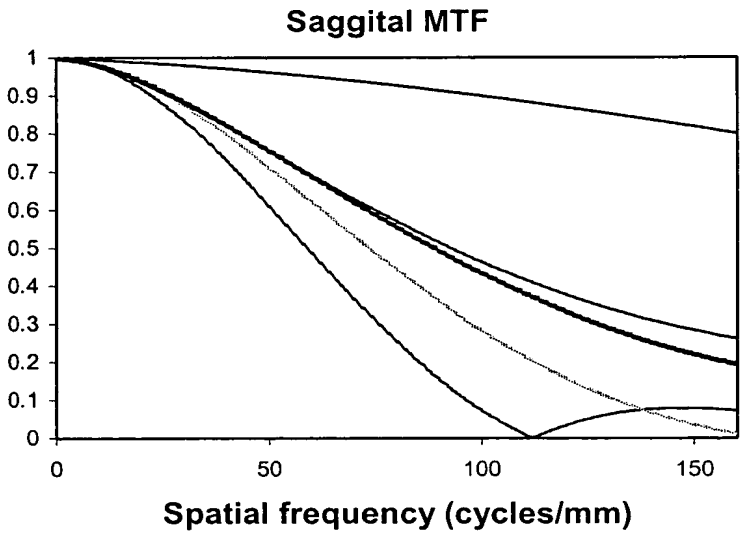



FIG. 19

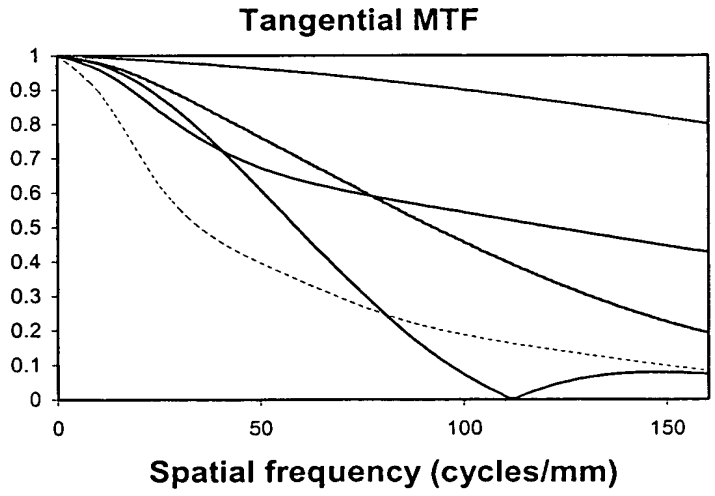



FIG. 20

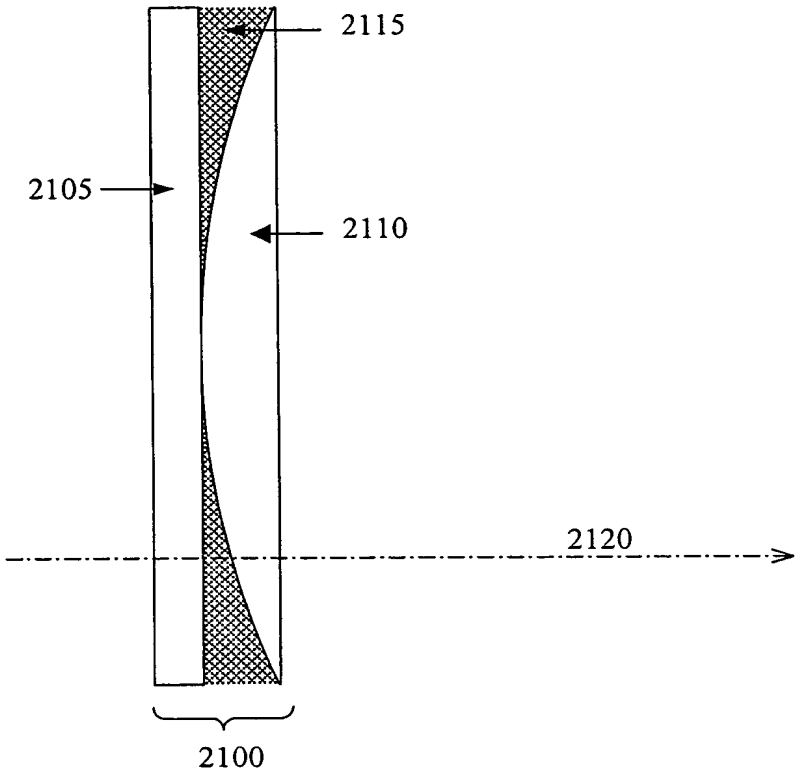



FIG. 21

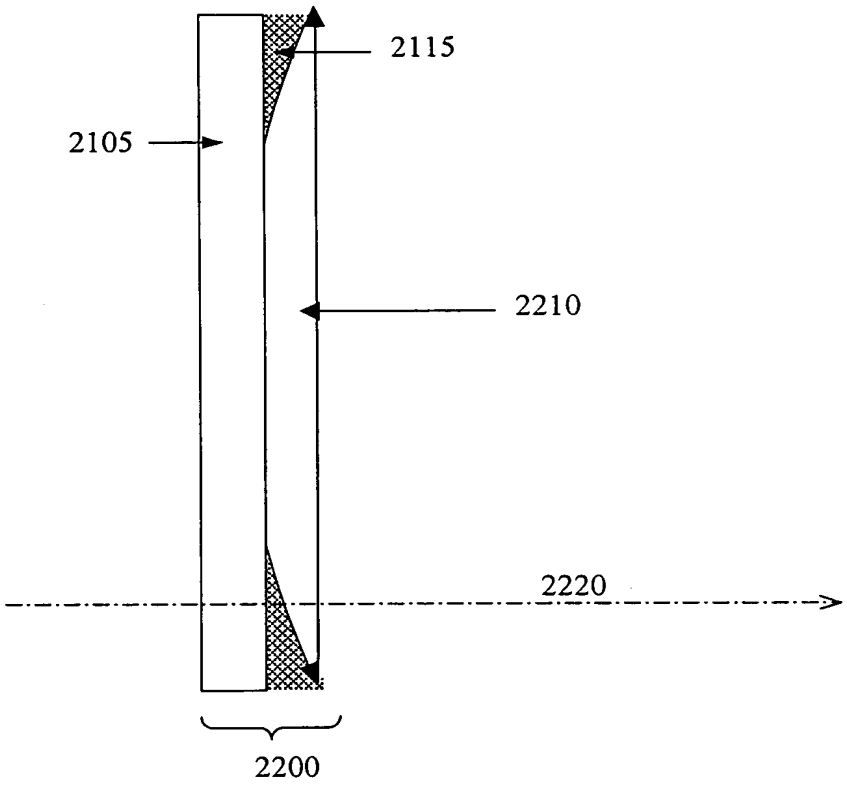



FIG. 22

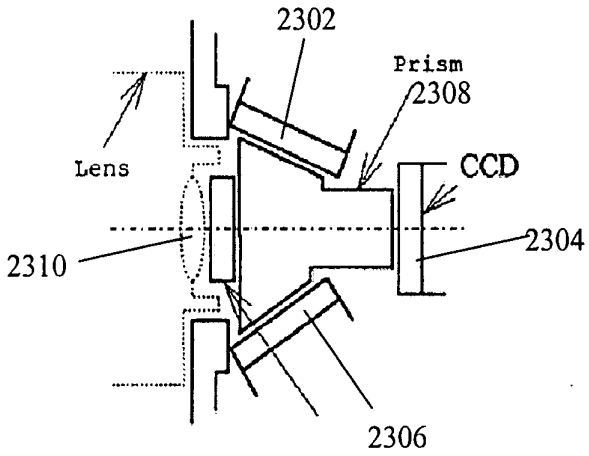



**Fig. 23**

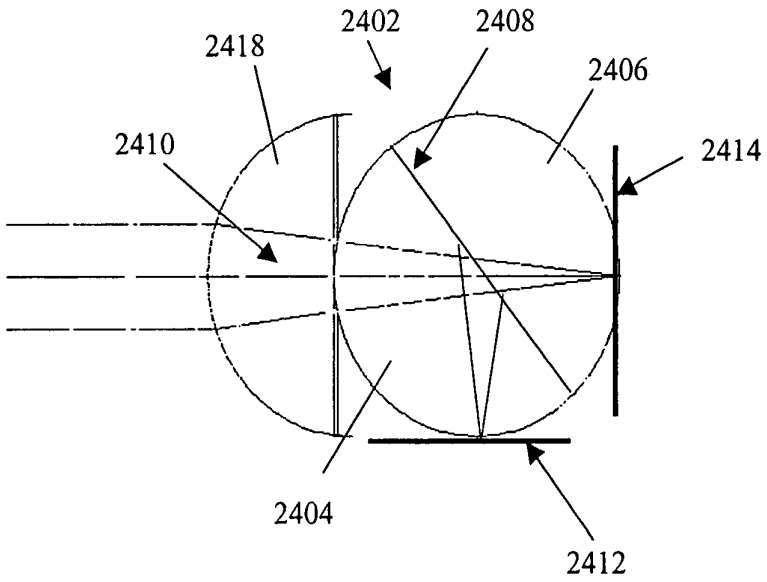



**Fig. 24**

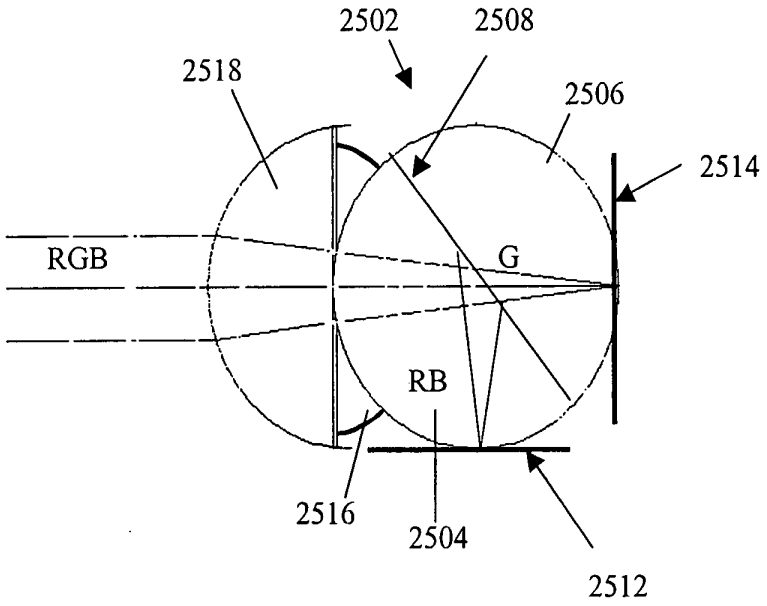
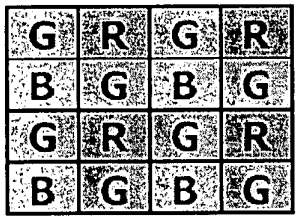



**Fig. 25**




**Bayer Pattern**

**Fig. 26**

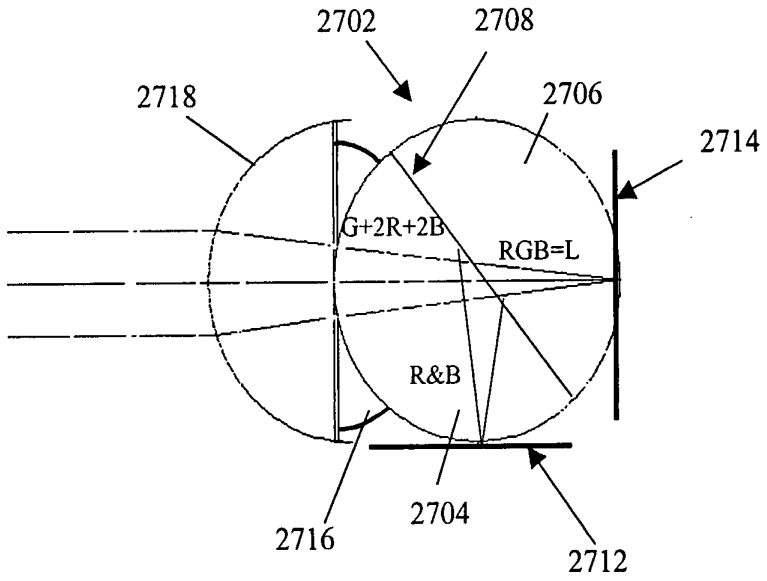
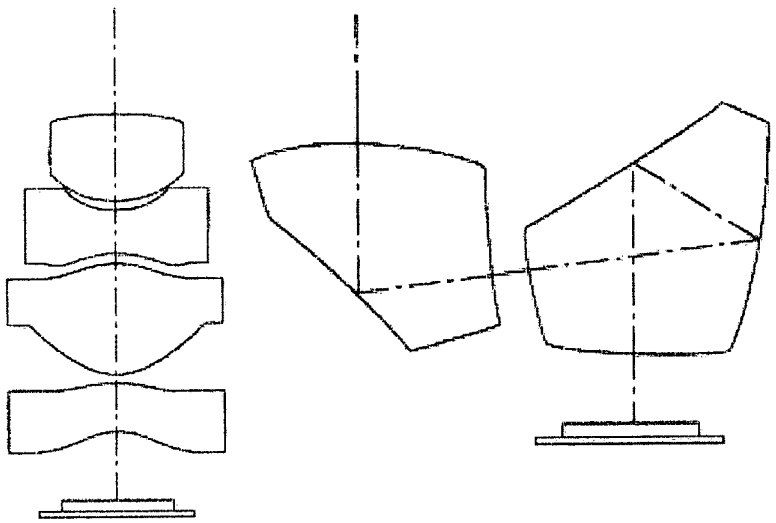



**Fig. 27**



(a) (b)

Fig. 28

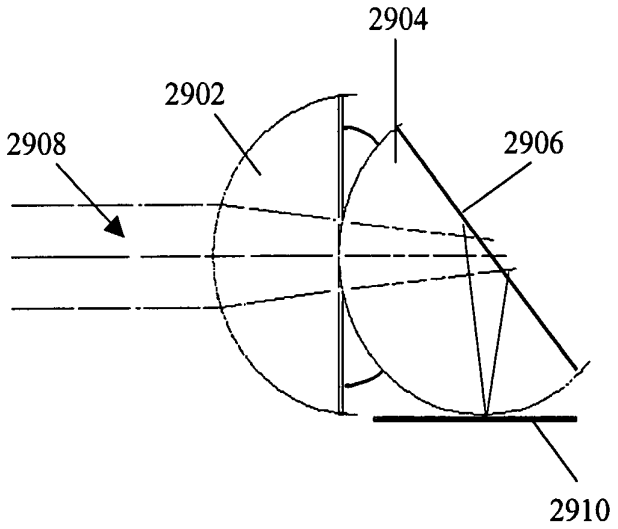



**Fig. 29**